REQUEST FOR PROPOSALS

AN EVALUATION OF EXISTING INFORMATION FOR

CHEMICAL CONTAMINATION

WITHIN THE SALTON SEA ECOSYSTEM

Issued by:
Salton Sea Science Office

Responses Due: July 9, 2001

STUDY SITE

The Salton Sea is the largest body of water in California. It is a hypersaline lake located in a closed desert basin east of Los Angeles and San Diego. The Sea was initially formed in 1905-1907 by flooding on the Colorado River which breached an irrigation control structure allowing virtually the full flow of the river into the Salton Basin. The Sea's current existence is primarily due to agricultural drainage from the Imperial, Coachella, and Mexicali Valleys; smaller volumes of municipal effluent and storm water runoff also flow to the Sea.

The aquatic ecosystem of the Salton Sea is extremely eutrophic and supports highly productive fish populations. The Sea and its adjacent wetlands are important components of the Pacific Flyway, providing habitat and seasonal refuge to millions of birds of hundreds of species. Several endangered species, including the Yuma clapper rail inhabit the Salton Sea ecosystem.

The Salton Sea ecosystem is an ecosystem under stress as evidenced by periodic large-scale die-offs of fish and of birds. A variety of diseases have been diagnosed as causes of the bird mortality and several pathogenic microbes and parasites have been isolated from sick and dead fish. Also, increasing salinity (currently about 44 ppt) may be threatening the reproductive ability of some fish species. High nutrient loading creates high productivity but also causes frequent algal blooms that contribute to periods of low oxygen and possibly blooms of toxic algae. Selenium (derived from the Colorado River water used to irrigate the agricultural areas of the basin) enters this waterbody and is found in elevated levels within bottom sediments and some biota. Pesticide and metal residues in Salton Sea sediments and the use of agricultural chemicals that reach irrigation drains leading to the Sea may also contribute to the overall ecosystem stress.

PROJECT BACKGROUND

Acting under authority of the Secretary, the Department of the Interior, in concert with the State of California and other stakeholder agencies, has initiated a National Environmental Policy Act (NEPA)/California Environmental Quality Act (CEQA) process and scientific activities to guide those processes in the determination of an appropriate remediation strategy for the Salton Sea. The Secretary designated the US Bureau of Reclamation (USBR) as the lead agency for NEPA purposes. The Salton Sea Authority (SSA) is the lead agency for CEQA. The SSA is a joint powers agency chartered by the State of California and is comprised of the counties of Imperial and Riverside, the Imperial Irrigation District, and the Coachella Valley Water District. An independent Salton Sea Science Office serves the Salton Sea Restoration Project by providing focused scientific input to meet the needs of the USBR and SSA in developing management actions leading to the restoration of the Salton Sea.

SCOPE OF WORK

ISSUE BACKGROUND

The water source for the Salton Sea is primarily agriculture subsurface and tailwater drainwater. Because of intensive agriculture adjacent to the Sea, pesticides and other chemicals enter this drainwater and reach the Sea along with naturally occurring constituents of the environment such

as salt and selenium. Other chemical contributions occur from the non-agriculture drainwater from municipalities and other sources. Claims are often made that environmental pollution is affecting the biota of the Sea and is associated with the occurrence of frequent fish and bird mortalities. Others have concerns about food chain biomagnification resulting in hazards for humans that consume fish or waterfowl from the Sea.

The concerns noted have resulted in a variety of investigations of contamination levels within the Salton Sea ecosystem. However, few of these studies have been published in peer-reviewed literature. In some instances, internal reports of these investigations exist in agency and personal files. Investigations have included contaminant levels in sediments, the waters of the Sea and drains that flow to the Sea and various components of the biota of this ecosystem. Data also exists from wildlife mortality investigations.

GOAL

The purpose for this evaluation is to provide a synthesis document of chemical contamination within the Salton Sea ecosystem that serves as an objective synopsis of the ecological and human health significance of those data.

PRODUCTS

1. A synthesis document that summarizes what is know about chemical contamination of the Salton Sea ecosystem and evaluates the biological significance of those data relative to the goal stated above is to be provided as the primary product of this evaluation. A suggested evaluation format is provided as Attachment A. A final draft outline for the synthesis document should be agreed upon between the contractor and the Salton Sea Science Office within 30 days following the contract award. Evaluations made should be location specific to the extent that data for the Sea itself should not be combined with that of the rivers (drains) feeding the Sea. Similarly, information from agriculture fields and offsite locations within the Basin should be considered as separate areas. This does not preclude discussing any connectivity that exists; such relations should be clearly described to the extent that non-specialists can understand that connectivity. Literature citations should support biological conclusions reached. The evaluation should focus on effects on biota utilizing the Sea itself as the primary area of interest and clearly differentiate between statements addressing biota and those addressing human health.

2. Copies of all reports and other documents reviewed relative to contaminant levels at the Salton Sea are to be provided as a secondary product. These documents are site-specific for the Salton Sea ecosystem and do not include references or other publications used by the contractor to evaluate the Salton Sea data (e.g., we do not want copies of water quality manuals, bird identification books, toxicology books or other references).

ASSISTANCE PROVIDED BY THE SALTON SEA SCIENCE OFFICE

The Science Office will provide copies of reports of environmental contaminant investigations at the Salton Sea within its files for use by the evaluator and will have the University of Redlands Salton Sea Database Program (SSDP) provide a bibliography of citations it has on this subject

area. The Science Office will work with the evaluator and the SSDP to acquire hard copy documents that may be required by the evaluator from the bibliography provided or other documents that are identified during the review process that are not available through standard means for document access. This assistance does not negate the need by the contractor to seek citations of appropriate scientific literature from the published literature that may not be contained within the SSDP.

SUBMISSION OF PROPOSALS

The required proposal format is provided as Attachment B to this RFP. Three paper copies of each proposal and one electronic version on 3.25" IBM-formatted diskette (WordPerfect 6.1 or earlier or Microsoft Word for Windows 6.0) should be submitted by mail postmarked no later than July 9, 2001 to:

Dr. Douglas Barnum, Science Coordinator
Salton Sea Science Office
78-401 Highway 111, Suite R
La Quinta, CA 92253
Email: doug_barnum@usgs.gov

Written questions about this RFP will be accepted and will be addressed. A record of the questions and responses will be posted on the Salton Sea page of the U.S. Bureau of Reclamation's Lower Colorado River Region website:
http://www.lc.usbr.gov

CONTRACT OBLIGATIONS

Receipt of a funding award will obligate the contractor to the following:

- Adherence to established standards: The Science Office and the co-lead management agencies are committed to high quality science. As key inputs to the decision-making process, environmental data must be accurate and reliable. Therefore, each proposal is expected to contain a Quality Assurance statement briefly describing how the proposed approach will produce valid and high quality evaluations and how any limitations to the use of these data will be identified. All funded proposals will be required to produce an acceptable Quality Assurance Project Plan (QAPP). Additional guidance in preparation of the QA statement as well as the complete QAPP may be obtained from the QA coordinator:

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or from EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations, EPA QA/R-5, October 1997 which is available on the internet at: http://es.epa.gov/ncerqa/qa/qa_docs.html#R-5.

- Initiation of studies within 30 days of the contract award:
  Evaluations need to be initiated in a timely manner to maximize the amount of information that is available as soon as possible because of on-going needs for management decisions to be made. Therefore, contract awards obligate the investigators to initiate substantial efforts as soon as practical after receipt of a contract, but within 30 days.

- INSURANCE REQUIREMENTS: Insurance requirements will be determined by the funding source (see below). The following represent likely m*inimum* ***limits of insurance*****:** Contractor shall maintain limits no less than:

  General Liability*:* $1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.

  Automobile Liability: $1,000,000 per accident for bodily injury and property damage. The Authority, its directors, officers, employees, agents and volunteers shall be covered as additional insured with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Contractor or for which the Contractor is responsible; and the insurance coverage shall be primary insurance as respects the funding source/agency.

  Workers' Compensation and Employer's Liability*:* Workers' compensation limits as required by the Labor Code of the State of California. Employers Liability limits of $1,000,000 per accident for bodily injury or disease. The insurer shall agree to waive all rights of subrogation against the Authority, its directors, officers, employees, agents and volunteers for losses paid under the terms of the insurance policy which arise from work performed by the contractor.

Legal Requirements

The following is a summary of legal requirements, which may impact your proposal and budget:

1) Buy American (Section 31.36 © (5) of 40 C.F.R. 31)
   In accordance with Section 215 of the Clean Water act (33 U.S.C. 1251 et seq.) and implementing EPA regulations, the contractor agrees that the contractor, subcontractors, material suppliers and other suppliers in the performance of this contract will give preference to domestic materials.

2) Prevailing Wages
Proponents are advised that this contract may be classified as public work for purposes of the California Labor Code, which requires payment of prevailing wages. The successful proponent must comply with applicable provisions of state law.

3) Equal Opportunity and Utilization of Small, Minority, and Women's Business Enterprises in Procurement: Federal requirements regarding utilization of Small, Minority and Women's Business enterprises in procurements related to this proposal will be required. Potential contractors need to briefly describe what their good faith efforts will be towards awarding a fair share of any sub-contracts and procurements to Small Business (SBE), Minority Business (MBE), and Women's Business (WBE) Enterprises. All Salton Sea Authority contractors will be obligated to retain all records documenting their MBE/WBE efforts. A fair share objective imposes an obligation on the recipient or contractor to exercise good faith efforts. Good faith efforts by a recipient or prime contractor mean efforts to attract and utilize SBEs. MBEs and WBEs, primarily through outreach, recruitment and race/gender neutral activities.

Because of the high visibility of the Salton Sea Restoration Project and the need for real-time information as it is being obtained, contract performance will be closely monitored:

- Investigators funded under this RFP are required to provide any significant findings to the Science Office through the project officer or directly to the Science Office as such findings are identified throughout the course of their evaluation.

- The Science Office reserves the right to redistribute to other contractors, for use in their studies before final reports are prepared by contractors, preliminary information resulting from the evaluations. In doing so, the findings will remain confidential within the project and the ability of the investigators to publish their results in the scientific literature will be protected.

The contractor is expected, to the extent feasible, to fully consider and report on the quality of data being evaluated from reports and other materials used in the analysis. This will be accomplished in part by the contractor providing a bibliography of all reports, scientific papers and other materials reviewed. Each of these documents will be given a numerical quality rating based upon agreed to criteria. These criteria will be developed collaboratively with the Science Office at the start of the contract. This aspect of the evaluation is for internal use only and will not be distributed. The Draft report of findings (not including the rating of reports and scientific papers evaluated) will be submitted to the Science Office for peer review. Peer review comments are to be fully considered by the evaluator and resolved with the Science Office. The report will not be considered final until accepted by the Science Office and is not to be released as a public document until that time. The draft report is due120 days following contract award. Comments received from peer review are to be responded to within 30 days following their receipt from the Science Office. Ten copies of the final report plus one copy of each report evaluated by the contractor that was not provided by the Science Office are to be provided to the Science Office within 15 days following notification of report acceptance. The contractor will also provide a summary of the report at an open meeting of the Science Advisory Committee.

The purpose for this presentation will be to afford the opportunity for dialogue on this subject area.

EVALUATION AND SELECTION OF PROPOSALS AND CONTRACT AWARD

Proposals are limited to the scope of work identified. That is, this work is an evaluation of existing information and cannot be extended to include field collections of additional samples, chemical analyses of existing samples, laboratory studies of biological effects or the development of contaminant assessment models. **Proposals including such components will not be evaluated**. The use of existing models as a means for assisting the data evaluation process is acceptable and encouraged. Proposals must cover the full spectrum of subject matter identified in Attachment A. There must be a lead principal investigator accountable for providing the evaluation document. **Separate proposals for individual components of the subject area will be considered to be non-responsive to this RFP and will not be evaluated**. However, this does not preclude separately funding multiple investigators working as a team so long as the end-product is a single report of the type specified by this RFP.

The evaluation process will take approximately 30 days. Contract awards will require an additional 30 to 45 days to provide funding to the successful submitters. The Science Office will perform an initial screening of each proposal for general compliance with this guidance and for relevance of the proposal. Relevance shall be evaluated using the following criteria:

1) Is the proposal responsive to the RFP, i.e., does it show understanding of the needs identified in the RFP?

2) Will the proposed approach provide information that significantly contributes to resolving the identified needs?

3) Will the proposed evaluation have a senior author with sufficient scientific stature in chemical contaminant assessment to provide a basis for actions by the Restoration Project?

4) Inclusion of an appropriate quality assurance statement to provide for adequate oversight of evaluations being developed in part by graduate students and investigators with limited work experience involving the subject matter.

The Science Office screening will be completed within 5 working days of the closing date for submission of proposals. Suitable proposals will then be reviewed in depth by at least two technical peer reviewers from outside the Science Office with no direct stake in investigations or remediation of the Salton Sea. Technical peer reviewers will score each proposal for:

1) Relevant technical qualifications of the individuals associated with the proposal; and

2) Approach for integrating information across subject areas to provide sound evaluations.

Peer reviewers will be provided 21 days to complete their evaluations.

The Science Office will then consider the results of the technical peer reviews and develop recommendations to the co-lead management agencies based on:

1) Cost-- is the cost for the proposed evaluation reasonable relative to the products to be generated?

2) Multi-disciplinary approach--does the proposed study incorporate multi-disciplinary participation and approaches where such is warranted, thus strengthening its potential to identify and describe relations among environmental factors?

3) Reliability--does the proposal submitter have a proven history of timely project completion?

4) Timeliness--are the investigators able to substantially initiate studies within 30 days of the contract award.

Science Office evaluations will be completed within 5 working days of receipt of the peer reviews and recommendations forwarded to the co-lead management agencies. Funding decisions will be made in concert with those agencies. Funding will either be under the SSA, through federal or state appropriations/grants or by funding within the Science Office. The SSA will administer the contract in the first instances and the Science Office in the latter. The Science Office will oversee the technical performance of the contractor regardless of the funding source.

If this solicitation is amended then all terms and conditions that are not modified remain unchanged. The Science Office and the Authority reserve the right, at their sole discretion, to reject any or all proposal(s) received as a result of this request, to negotiate with any qualified source, and to cancel in part or in its entirety this request for proposal. The receipt of proposals shall not in any way obligate the Science Office, the Authority, nor the Bureau of Reclamation to enter into a contract of any kind. Neither the Science Office, the Authority or the Bureau of Reclamation will be responsible in any manner for the costs associated or incurred with the preparation and submission of the proposals.

ATTACHMENT A: POSSIBLE FORMAT FOR SYNTHESIS DOCUMENT

Title: (EVALUATION/SYNOPSIS)--CHEMICAL CONTAMINATION WITHIN THE SALTON SEA ECOSYSTEM

INTRODUCTION: Include here a general description of the situation being evaluated. Consider the target audience to be project managers, administrators and the public, not peer toxicologists. An example of now this section might be approached follows:

The Salton Sea is often depicted as a waterbody heavily polluted by agriculture and other sources. The primary purpose for this synopsis is to provide a frame of reference regarding the relative significance of chemical contaminants found within this waterbody and associated biota. Like other waterbodies, inflows into the Salton Sea carry with them a variety of chemicals, trace elements, and other materials from within the watershed. Included are nutrients associated with agricultural fertilizers, synthetic compounds such as pesticides, and naturally occurring trace elements such as selenium. Also, much smaller deposition of chemicals reaches the Salton Sea through atmospheric transfer via wind-blown materials and precipitation. Unlike most other waterbodies, the Salton Sea is a below sea level, closed hydrologic basin with no outlet. Therefore, the Sea acts as a sump or collection basin for materials that enter and has more restricted pathways for preventing the build-up of chemical contaminant loading over time than occurs with flow through systems. The physical environment of the Salton Sea is 25 percent saltier than ocean water and the high temperatures of this environment and anoxia within the water column that occurs during the summer months impacts the fate of chemicals entering this environment.

Data available for the Salton Sea are summarized in this report under three broad categories to provide insight relative to the magnitude of contamination taking place within this ecosystem. The categories used are measurements in water samples, sediments, and biota. In general, measurements in water reflect inputs into the Sea, those in sediments reflect concentration of inputs, and those in biota may reflect biologic activity at the organismal level or those occurring through food webs. However, because the avifauna of the Salton Sea is largely migratory, this complicates the interpretation of chemical residues found in avian tissues.

BASIC PRINCIPLES: Considering the target audience identified above, provide a brief overview of environmental contamination to place the evaluation in context and provide useful perspectives for readers to consider. An example of the types of comments that might be provided follows:

Chemical contamination is universal and occurs through natural processes, such as the leaching of naturally occurring metals from their substrates into surface water, as well as from human actions. When the level of contamination results in harmful impacts the chemicals have reached the unwanted status of being a pollutant. Risk assessment and corrective actions should be focused on an understanding of levels of contamination that pose a hazard due to unwanted effects. These types of evaluations are complicated by the fact that different levels or dose of the chemical are required to cause harm to different types of organisms. Also, there must be

appropriated pathways, or route for exposure, for the chemical to reach organisms of concern and cause harm. Therefore, numerous factors must be considered in translating measurements of contamination into meaningful biological evaluations. This synthesis document is intended to provide as sound an evaluation that can be made based on currently available information and to identify important information gaps and monitoring that should be considered as areas for additional investigation based on findings from this evaluation.

GENERAL OUTLINE: A proposed organization for the evaluation follows: this organization can be modified but is provided to identify areas for focus because of their relevance for other evaluations associated with the Salton Sea Restoration Project.

A SYNOPISIS OF CHEMICAL CONTAMIANTION WITHIN THE SALTON SEA ECOSYSTEM

INTRODUCTION (see above comments)

BASIC PRINCIPLES (see above comments)

CHEMICAL CONTAMINANTS IN WATER SAMPLES

- Pesticides
  - Findings
    - Near shore shallow environment
    - Deepwater environment
- Metals
  - Findings
    - Near shore shallow environment
    - Deepwater environment
- Other
  - Findings
    - Near shore shallow environment
    - Deepwater environment

CHEMICAL CONTAMINANTS IN SEDIMENTS

- Pesticides
  - Findings
    - Near shore shallow environment
    - Deepwater environment
- Metals
  - Findings

Near shore shallow environment
Deepwater environment

Other
Findings
Near shore shallow environment
Deepwater environment

CHEMICAL CONTAMINANTS IN BIOTA

Pesticides
Findings
Comparative Toxicity Data for Biota
Evaluations
Biota
Human Health

Metals
Findings
Comparative Toxicity Data for Biota
Evaluations
Biota
Human Health

Other
Findings
Comparative Toxicity Data for Biota
Evaluations
Biota
Human Health
Surrounding Environs
Biota
Human Health

DISCUSSION

General (this is where data strengths and weaknesses should be noted and interpretation of findings done to provide both an overall assessment and specific points of importance).

CONCULSIONS (Professional judgments of the contractor regarding the salient points drawn from the evaluation)

RECOMMENDATIONS (Specific monitoring and focused investigations that should be considered; each should be clearly associated with comments of why this should be done and how the resulting information will be of benefit).

LITERATURE CITED

APPENDICES

ATTACHMENT B: FORMAT FOR PROPOSALS

In general, proposals should be printed on 8.5 x 11 inch paper at 12-point font size with one inch margins. Clear, concise presentations of the case to conduct the proposed evaluations are sought. Unnecessarily elaborate proposals beyond those sufficient to present a complete and effective response to this RFP are not desired.

Proposers who include data which they do not want disclosed to the public must add the following statement to the title page:

> "This proposal includes data that shall not be disclosed outside the reviewing government agencies and their agents and shall not be duplicated or used, in whole or in part, for any purpose other than to evaluate this proposal. If however, a contract is awarded to this proposer as a result of, or in connection with, the submission of these data, the government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting agreement. This restriction does not limit the Science office's right to use information contained in these data if it is obtained from another source without restriction."

Each page of the proposal which contains data the proposer wished to restrict must be marked with the following legend:

> "Use or disclosure of data contained on this page is subject to the restriction on the title page of this proposal."

Title Page: Descriptive title of proposed study plus name and affiliation of principal investigator(s) and all contact information including mailing address(es), voice and fax phone numbers, and email address(es).

Summary: Brief description of proposed study.

Objectives: Specific accomplishments to be realized.

Narrative: The narrative should fully develop the approach to be undertaken. Investigators should demonstrate a knowledge of the broader relevant published literature and clearly describe a technical approach that is scientifically sound. Sufficient detail should be included such that moderately informed scientific peers can readily visualize how the evaluation will be done. A quality assurance statement is required.

Milestones and Products: This presentation should be specific enough to identify what products and general information will be available in what time frames.

Staffing: A table showing the proposed staffing, principal duties of each staff member, and the time allocation of all scientific staff must be included. Resumes should be provided for the principal investigator and all co-investigators and should be condensed by focusing on education, recent positions, relevant experience and accomplishments, and recent and relevant publications that pertain to expertise in carrying out the proposed evaluation.

Experience: A list of projects completed by the submitting entity and/or principal investigators which demonstrates the ability to complete projects on a timely basis.

Facilities: The proposal should contain a description of the relevant facilities that provide the support base for the investigators evaluations. The description should be sufficiently detailed to allow the technical peer reviewers to determine adequacy with respect to accomplishing the proposed objectives.

Budget: A comprehensive budget covering all proposed activities must be included. The budget must, at a minimum, include the following elements identified for each year of investigation for the entire duration of the study:

1) Personal – by staff member;
2) Travel – separate travel for site visits from travel for other purposes;
3) Equipment – purchases and rental;
4) Supplies – major items or categories;
5) Contract services – itemize by purpose and subcontractor;
6) Indirect costs including overhead – Note: overhead costs can not exceed 26 percent for contracts issued by the Salton Sea Authority or the Salton Sea Science Office.
7) Other – substantial costs not included above.